

&lt;!--StartFragment--&gt;RESULT 3

ASU55852

LOCUS ASU55852 2208 bp mRNA linear PLN 28-AUG-1997

DEFINITION Amaranthus sp. acetolactate synthase precursor mRNA, complete cds.

ACCESSION U55852

VERSION U55852.1 GI:1314831

KEYWORDS .

SOURCE Amaranthus sp.

ORGANISM Amaranthus sp.

Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;  
Spermatophyta; Magnoliophyta; eudicotyledons; core eudicots;  
Caryophyllidae; Caryophyllales; Amaranthaceae; Amaranthus.

REFERENCE 1 (bases 1 to 2208)

AUTHORS Woodworth,A.R., Rosen,B.A. and Bernasconi,P.

TITLE Broad range resistance to herbicides targeting acetolactate  
synthase (ALS) in a field isolate of Amaranthus sp. is conferred by  
a Trp to Leu mutation in the ALS gene (Accession No.  
U55852) (PGR96-051)

JOURNAL Plant Physiol. 111, 1353 (1996)

REFERENCE 2 (bases 1 to 2208)

AUTHORS Bernasconi,P.

TITLE Direct Submission

JOURNAL Submitted (19-APR-1996) Paul Bernasconi, Research Division, Sandoz  
Agro Inc, 975, California Avenue, Palo Alto, CA 94304, USA

FEATURES Location/Qualifiers

source

1. .2208

/organism="Amaranthus sp."

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16. .2013

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VEDIPRIVKEAFFLANSRPGPVLIDIPKDIQQQLVVPNW EQPIKLGYSRLPKPTF  
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sig\_peptide

16. .285

mat\_peptide

286. .2010

/product="acetolactate synthase"

variation

1721

/note="This mutation confers broad range tolerance to  
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/replace="g"

ORIGIN

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Best Local Similarity 96.7%; Pred. No. 0;

Matches 1786; Conservative 0; Mismatches 60; Indels 1; Gaps 1;

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Db	1533		GGCTATGGGGTTTGGTCTACCAGCCTGCTATGGAGCTGCTGTTGCTCGACCAGATGCGGT	1592
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Q38795\_9CARY

ID Q38795\_9CARY PRELIMINARY; PRT; 665 AA.

AC Q38795;

DT 01-NOV-1996, integrated into UniProtKB/TrEMBL.

DT 01-NOV-1996, sequence version 1.

DT 27-JUN-2006, entry version 33.

DE Acetolactate synthase precursor.

OS Amaranthus sp. 'Iowa'.

OC Eukaryota; Viridiplantae; Streptophyta; Embryophyta; Tracheophyta;

OC Spermatophyta; Magnoliophyta; eudicotyledons; core eudicotyledons;

OC Caryophyllales; Amaranthaceae; Amaranthus.

OX NCBI\_TaxID=47306;

RN [1]

RP NUCLEOTIDE SEQUENCE.

RC STRAIN=Iowa field; TISSUE=Leaf;

RX MEDLINE=96347413; PubMed=8756508;

RA Woodworth A.R., Rosen B.A., Bernasconi P.;

RT "Broad range resistance to herbicides targeting acetolactate synthase

RT (ALS) in a field isolate of Amaranthus sp. is conferred by a Trp to

RT Leu mutation in the ALS gene (Accession No. U55852) (PGR96-051).";

RL Plant Physiol. 111:1353-1353(1996).

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DR EMBL; U55852; AAB67839.1; -; mRNA.

DR HSSP; P07342; 1JSC.

DR SMR; Q38795; 77-662.

DR GO; GO:0003984; F:acetolactate synthase activity; IEA.

DR GO; GO:0003824; F:catalytic activity; IEA.

DR GO; GO:0030976; F:thiamin pyrophosphate binding; IEA.

DR GO; GO:0009082; P:branched chain family amino acid biosynthesis; IEA.

DR InterPro; IPR012846; Acetolac\_syn\_lg.

DR InterPro; IPR004407; Acolac\_synthlrg.

DR InterPro; IPR000399; TPP\_bd.

DR InterPro; IPR012001; TPP\_bd\_enzyme\_N.

DR InterPro; IPR011766; TPP\_enzyme\_bd\_C.

DR InterPro; IPR012000; TPP\_enzyme\_M.

DR Pfam; PF02775; TPP\_enzyme\_C; 1.

DR Pfam; PF00205; TPP\_enzyme\_M; 1.

DR Pfam; PF02776; TPP\_enzyme\_N; 1.

DR PIRSF; PIRSF500108; Acetolac\_syn\_lg; 1.

DR PIRSF; PIRSF001370; ThDP\_depend\_acl; 1.

DR TIGRFAMs; TIGR00118; acolac\_lg; 1.

KW Signal.

FT SIGNAL 1 90 Potential.

FT CHAIN 91 665 acetolactate synthase.

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Matches 596; Conservative 8; Mismatches 6; Indels 0; Gaps 0;

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 Db 112 GASMEIHQALTRSNIIRNVLPHEQGGVFAAQGYARATGRVGVCIATSGPGATNLVSGFA 171

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2	BRS	L2	1	GVRFDERTGK	US- PGPUB; USPAT; EPO; JPO; DERWENT	2008/01/02 13:18	
3	BRS	L3	542847 7	ALS or AHAS	US- PGPUB; USPAT; EPO; JPO; DERWENT	2008/01/02 13:18	
4	BRS	L4	46758	l3 and plant.clm.	US- PGPUB; USPAT; EPO; JPO; DERWENT	2008/01/02 13:19	
5	BRS	L5	2444	l4 and ((aspartic adj acid) with (glutamic adj acid))	US- PGPUB; USPAT; EPO; JPO; DERWENT	2008/01/02 13:22	

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments
6	BRS	L6	978	15 and ((aspartic adj acid) with (glutamic adj acid) with (substitute or substitution))	US- PGPUB; USPAT; EPO; JPO; DERWENT	2008/01/02 13:26	
7	BRS	L7	47	16 and herbicide.clm.	US- PGPUB; USPAT; EPO; JPO; DERWENT	2008/01/02 13:26	



(FILE 'HOME' ENTERED AT 15:19:38 ON 02 JAN 2008)

FILE 'BIOSIS, CAPLUS, EMBASE, AGRICOLA' ENTERED AT 15:19:46 ON 02 JAN 2008

L1	3750 S (AHAS OR ALS) AND PLANT
L2	1156 S L1 AND HERBICIDE
L3	0 S L2 AND ((ASPARTIC (A) ACID) (S) (GLUTAMIC (A) ACID))
L4	0 S L2 AND WHALEY
L5	0 S L2 AND WILSON
L6	0 S L2 AND WESTWOOD